What is claimed is:

1. A substrate with a microstructure formed thereon, the substrate comprising:

a temporary substrate supporting an upper substrate on which a device is formed at a process of manufacturing the device, and removed from the upper substrate after the process;

a buffer layer formed on an upper surface of the temporary substrate to have a plurality of shapes with air gaps spaced apart from each other at regular intervals; and

an adhesive layer formed on the buffer layer so that the upper substrate is adhered to an upper surface of the adhesive layer.

2. The substrate as claimed in claim 1, wherein the temporary substrate is made of at least one of Si, SiO_2, Al_2O_3, copper, copper alloy, aluminum, aluminum alloy, and glass.

3. The substrate as claimed in claim 1, wherein the buffer layer is made of at least one of SiO_2, Al_2O_3, AlON, SiON, Si_3N_4, AlN, SOG (spin-on-glass), photosensitive material, Cu, Cu alloy, Al, and Al alloy.

4. The substrate as claimed in claim 1, wherein the buffer layer is patterned and etched to form a plurality of shapes arranged in many rows or to form a plurality of shapes arranged in hexahedron or cylindrical islands, with air gaps being spaced apart from each other at regular intervals.

5. The substrate as claimed in claim 1, wherein the adhesive layer is made of any one of a double sided tape, a liquid adhesive, and organic film, to withstand a hot process of more than

100°C.

6. The substrate as claimed in claim 1, wherein the upper substrate is made of any one of plastic, stainless steel, copper, copper alloy, aluminum, aluminum alloy, silicon, and glass.

7. A method for manufacturing a substrate with a microstructure formed thereon, the method comprising the steps of:

a) forming a buffer layer having air gaps spaced apart from each other at regular intervals and a plurality of shapes on an upper surface of a temporary substrate or a lower surface of an upper substrate;

b) forming an adhesive layer on an upper surface of the buffer layer; and

c) adhering the temporary substrate to the upper substrate using the adhesive layer formed on the upper surface of the buffer layer.

8. The method as claimed in claim 7, wherein in the step a, after the flat buffer layer of a given thickness formed on the upper surface of the temporary substrate or the lower surface of the upper substrate is patterned by photolithography, the patterned buffer layer is etched to form the air gaps spaced apart from each other at regular intervals and the plurality of shapes.

9. The method as claimed in claim 7, wherein in the step a, the air gaps spaced apart from each other at regular intervals and the plurality of shape layers are formed on the upper surface of the temporary substrate or the lower surface of the upper substrate using a screen printing method or an inkjet printing method.

10. The method as claimed in claim 7, wherein in the step a, the buffer layer is made of at least one of SiO_2, Al_2O_3, AlON, SiON, Si_3N_4, AlN, SOG (spin-on-glass), photosensitive material, Cu, Cu alloy, Al, and Al alloy.

11. The method as claimed in claim 7, wherein in the step b, the adhesive layer is made of any one of a double sided tape, a liquid adhesive, and organic film, to withstand a hot process of more than 100°C.

12. A method for manufacturing a substrate with a microstructure formed thereon, the method comprising the steps of:

a) patterning and etching one surface of a temporary substrate to form air gaps spaced apart from each other at regular intervals, the temporary substrate supporting an upper substrate, on which a semiconductor device is formed, at a process of manufacturing the semiconductor device, and removed from the upper substrate after the process is completed;

b) forming an adhesive layer on the upper surface of the temporary substrate with the air gaps formed thereon; and

c) adhering the temporary substrate to the upper substrate using the adhesive layer.